

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): Optical fiber amplifier comprising a mono-mode core with a refractive index  $n_1$ , a first cladding around said core with a refractive index  $n_2$  and at least a further cladding around said first cladding with a refractive index  $n_3$  while said first cladding including in cross section a ring with a refractive index  $n_4$  doped with rare earth material surrounding said mono-mode core, wherein said first cladding shows at least part of partly a radial refractive index  $n_2$  as a function of the radius being ~~almost~~ substantially continuously decreasing.

2. (original): Optical fiber amplifier according to claim 1, wherein said decreasing function is defined with a negative slope.

3. (currently amended): Optical fiber amplifier according to claim 1, wherein said ring shows ~~an almost~~ substantially constant radial refractive index  $n_4$  while the radial refractive index  $n_2$  starts to decrease ~~almost~~ at the outer border of said ring.

4. (currently amended): Optical fiber amplifier according to claim 1, wherein said ring is ~~almost directly adjacent~~ to said mono-mode core.

5. (original): Optical fiber amplifier according to claim 1, wherein said ring is partly included into said mono-mode core.

6. (original): Optical fiber amplifier according to claim 1, wherein said ring is defined with a lower radius comprised around  $3\mu\text{m}$  or  $3.5\mu\text{m}$  and an upper radius comprised around  $6\mu\text{m}$ .

7. (original): Optical fiber amplifier according to claim 1, wherein said first cladding shows an outer shape substantially concentric along the optical axis of said fiber.

8. (new): An optical fiber amplifier comprising:  
a core having a refractive index  $n_1$ ;  
a first cladding around the core comprising an active region adjacent to the core and second region around the active region, wherein the active region has a refractive index  $n_4$ , the second region has a refractive index  $n_2$  and the refractive index  $n_2$  decreases as a function of a radius of the optical fiber; and  
a second cladding around the first cladding and having a refractive index  $n_3$ .

**Amendment Under 37 C.F.R. § 1.111**

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9. (new): An optical fiber amplifier according to claim 8, wherein the decrease of the refractive index  $n_2$  as a function of the radius has a negative slope.

10. (new): An optical fiber amplifier according to claim 8, wherein the refractive index  $n_4$  is substantially constant.

11. (new): An optical fiber amplifier according to claim 8, wherein the core is a mono-mode core.

12. (new): An optical fiber amplifier according to claim 8, wherein the active layer has a lower radius of around  $3\mu\text{m}$  to  $3.5\mu\text{m}$  and an upper radius of around  $6\mu\text{m}$ .

13. (new): An optical fiber amplifier according to claim 8, wherein the first cladding has an outer shape substantially concentric with the optical axis of the fiber.

14. (new): An optical fiber amplifier according to claim 8, wherein the active region is doped with a rare earth material.

15. (new): An optical fiber amplifier according to claim 8, wherein the refractive index  $n_2$  begins to decrease from a value substantially equal to  $n_4$ .